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IMPROVING THE
SAFETY OF
MEAT AND POULTRY

Background

on

*A Science-based
Strategy for
Protecting
Public Health*

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USDA UNVEILS SWEEPING NEW FOOD SAFETY PROPOSALS

WASHINGTON, Jan. 31, 1995--The U.S. Department of Agriculture today proposed sweeping changes in federal meat and poultry inspection, from a system based primarily on sight, touch and smell to one incorporating scientific testing and systematic prevention of contamination.

"These reforms demonstrate this administration's strong commitment to making meat and poultry safer for consumers," said Acting Secretary Richard Rominger at a press conference announcing a thorough modernization of USDA's food safety procedures.

"In keeping with the President's initiative to reform the way the federal government does business, we propose to reinvent the meat and poultry inspection system by incorporating science-based concepts to make our food supply safer. This initiative is not about more regulation. It's about better, more sensible regulation."

"We are proposing a system that would directly target and reduce harmful bacteria and build prevention of foodborne illness into meat and poultry inspection," said Michael R. Taylor, the acting under secretary for Food Safety and administrator of USDA's Food Safety and Inspection Service (FSIS).

"These proposals mark a fundamental shift. They are targeted to improve the safety of meat and poultry products by directly addressing the pathogenic microorganisms that cause most food-related illnesses and by increasing our ability to ensure that all meat and poultry companies follow sound food safety procedures," Taylor said.

The proposal would require the nation's nearly 6,200 federally inspected meat and poultry slaughter and processing plants to adopt science-based process control systems, called Hazard Analysis and Critical Control Points (HACCP). The HACCP systems would identify potential food safety hazards arising in slaughter and processing plants and build in science-based preventive controls. USDA's food safety proposals would also affect about 2,900 state inspected plants and foreign meat and poultry inspection programs, which under current law must be equivalent to the U.S. system.

Under the HACCP proposal, industry would verify the effectiveness of their operations by continuous monitoring of the controls, end product testing and careful record keeping. FSIS, the agency responsible for designing and carrying out USDA's food safety program, would review each plant's records and conduct other in-plant inspection activities to verify that proper food safety procedures are being followed.

For the first time, targets would be set for reducing the incidence of contamination of raw meat and poultry products with harmful bacteria. Plants

-more-

that do not achieve established targets for pathogen reduction within a specified time would be required to take corrective action under FSIS supervision to achieve the target.

The proposal would require slaughter plants to test raw products initially for Salmonella, a pathogenic bacteria that is the most common cause of foodborne illness in the United States. The proposal includes identifying the current baseline incidence of Salmonella contamination for each major species and for ground meat and poultry. Slaughter plants would be required to reduce contamination to a level determined after FSIS reviews comments on the proposed rule. The proposal would require bacterial testing 90 days after publication of the final rule.

"The HACCP system clearly establishes the meat and poultry industry's responsibility for improving the safety of their products, and the interim targets will help achieve measurable progress toward pathogen reduction even as we develop our HACCP program," said Taylor, who was appointed the administrator of the Food Safety and Inspection Service in August and in October was named to the new position of acting under secretary for food safety.

"Our proposals will stimulate the innovative capacity of the meat and poultry industry to produce safer products," Taylor added. To facilitate the innovations, FSIS is reviewing its existing food safety regulations and will delete requirements that are obsolete or unnecessarily inhibit the incorporation of science-based preventive controls into meat and poultry production systems.

The new proposal also includes basic food safety procedures that Taylor says many plants have already implemented, including written sanitation plans, antimicrobial treatments and strict temperature controls for raw products.

USDA estimated the total implementation cost of the proposal to the meat and poultry industry at \$733.5 million over three years, or an average of \$244.5 million per year. Yearly public health benefits from reduced foodborne illness costs, including medical care and lost work time, would range from \$990 million to \$3.7 billion. These costs amount to slightly more than two tenths of a cent per pound.

According to Rominger and Taylor, the proposals to improve in-plant food safety procedures are part of a broad USDA food safety strategy that will stress preventive measures throughout the food chain.

"We will be working cooperatively with the producer community to find and implement solutions to food safety problems on the farm, and we will work jointly with FDA to ensure that appropriate food safety controls are in place during the transportation process," Taylor said. "We are also expanding our collaboration with the states to improve food safety at the retail level."

Noting that consumers also share the responsibility for the safety of their food, Taylor added, "As USDA works to do a better job to protect consumers, it is critical that consumers do their part by properly handling and cooking meat and poultry products."

FSIS plans extensive public outreach during the 120-day comment period to explain and receive comments on the proposal.

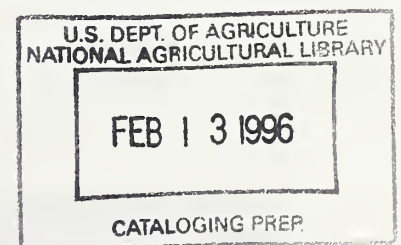
"It is only with the ideas, views and input of all interests that we can develop the best inspection system possible. We want to stimulate dialogue and draw out informed and constructive comments so we can make this proposed rule effective and workable. All parties, government and industry, consumers and the scientific community, need to work together to improve the safety of meat and poultry," Taylor said.

The proposed USDA HACCP/Pathogen Reduction rule is scheduled to be published in the Feb. 3 Federal Register. Comments will be accepted through June 5. Comments can be sent to: Policy, Evaluation and Planning Office, Attn: Diane Moore, FSIS Docket Clerk, Room 3171-South Building, Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, D. C. 20250.

The USDA proposals for HACCP and pathogen reduction are the latest steps taken by the Administration to strengthen and update the federal inspection program for meat and poultry products. Initiatives since January 1993 include:

- started unannounced reviews in 1,000 meat and poultry plants,
- implemented mandatory safe cooking and handling instruction on labels of meat and poultry products,
- increased funding for food safety research,
- elevated food safety to a sub-cabinet level at USDA,
- declared E.coli O157:H7 in raw ground beef an illegal adulterant,
- initiated a sampling program for raw ground beef, and
- streamlined approval of antimicrobial treatments for use by industry.

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SUMMARY

The Food Safety and Inspection Service (FSIS) is pursuing a broad, long term science-based strategy to improve the safety of meat and poultry products and better protect public health.

The strategy will address food safety issues from the farm to the table, including proposed requirements for all federally inspected meat and poultry plants to reduce pathogenic microorganisms that can cause foodborne illness. The strategy is based on the philosophy of prevention embodied in HACCP (Hazard Analysis and Critical Control Points), a science-based system for producing safe food.

The regulatory proposal would (1) target pathogens that cause foodborne illness; (2) strengthen industry responsibility to produce safe food; and (3) focus inspection and plant activities on prevention objectives.

The proposal addresses three major areas:

Near-term initiatives

FSIS is proposing that:

- All plants develop and use written standard operating procedures covering plant sanitation.
- Slaughter plants use at least one antimicrobial treatment on all carcasses.
- All finished carcasses and parts be chilled promptly after slaughter and be kept cool.

These requirements would have to be implemented within 90 days from the date of publication of the final rule and would remain in effect at least until a Hazard Analysis and Critical Control Points (HACCP) system is implemented.

Proposed Interim Targets for Pathogen Reduction and Microbial Testing

Under the proposal, FSIS would establish interim targets for pathogen reduction and require daily microbial testing in slaughter plants to determine whether targets

are being met or remedial measures are necessary. Raw products would be tested for *Salmonella*, a representative pathogen, and establishments would be required to achieve targeted reductions in the incidence of *Salmonella* in relation to the current national baseline incidence. Microbiological testing would be required to begin in 90 days and tracking of test results would begin 6 months after the final rule is published. Compliance with the interim targets would be determined by using a moving sum statistical procedure that focuses on a specific number of days within a production process.

Hazard Analysis and Critical Control Points (HACCP)

All plants would be required to develop, adopt, and implement Hazard Analysis and Critical Control Points (HACCP), a system of preventive controls designed to improve the safety of products. HACCP would be implemented during the three years following the publication of the final rule. FSIS expects the near-term initiatives and microbial testing requirements to provide the foundation for the later adoption of HACCP by plants.

Implementation Costs

FSIS estimates the total implementation cost of its proposed requirements to the meat and poultry industry at \$733.5 million, or an average of \$244.5 million per year. Yearly public health benefits from reduced foodborne illness costs, including medical care and lost work time, would range from \$990 million to \$3.7 billion. The increased cost to consumers is estimated at slightly more than two tenths of a cent per pound.

Comments

The proposed USDA HACCP/Pathogen Reduction rule was published in the February 3 Federal Register. Comments on the proposal should be submitted to Diane Moore, Docket Clerk, Room 3171 South Building, Food Safety and Inspection Service, U.S. Department of Agriculture, Washington DC 20250. Comments will be accepted through June 5.

BACKGROUND

Current FSIS regulatory requirements and inspection procedures contribute to the FSIS mission of ensuring that meat and poultry products are safe, wholesome, and accurately labeled. More than 7,400 FSIS inspectors are present in 6,200 slaughter and processing plants to ensure that diseased animals and birds do not enter the food supply and that sanitation and other requirements are met. Inspectors also monitor the meat and poultry supply for violative levels of chemical residues.

Despite the successes of the current program, there is a critical gap in its ability to protect public health. The current system largely focuses on organoleptic (sensory) inspection, which was appropriate when the first major meat inspection law was passed in 1906. At that time, animal diseases were the major concern, and invisible hazards such as pathogenic microorganisms and drug residues had not yet attracted the attention of regulatory agencies. Since that time, changes have been made in the inspection program to reflect changes in the production of meat and poultry and to increase the efficiency of inspection. However, the current program still is inadequate to detect hazards such as pathogenic microorganisms that can cause foodborne illness. In short, it does not include integration of systematic process control into the production process to make meat and poultry as safe as possible.

While precise data on the incidence of illness associated with meat and poultry products is limited, it is clear that foodborne illness is a public health problem in the United States. Data from varied sources suggest that foodborne pathogens account for up to 7 million cases of foodborne illness each year, and up to 7,000 deaths. Of these, nearly 5 million cases of illness and more than 4,000 deaths may be associated with meat and poultry products.

Microbiological surveys of meat and poultry products conducted over the past several decades show the frequency of pathogenic microorganisms in cooked, ready-to-eat meat and poultry products to be relatively low. The frequency of pathogenic microorganisms in raw products has been greater and varies from pathogen to pathogen and from species to species.

Even when the incidence of contamination is relatively low, the public health threat can be serious. An example is the outbreak of foodborne illness that occurred

in several western states in early 1993. The outbreak was attributed to undercooked hamburgers contaminated with *E. coli* 0157:H7 that were served at a chain of fast food restaurants. A study by FSIS completed in 1990 found the prevalence of *E. coli* 0157:H7 in raw beef to be only 0.1 percent. Nevertheless, this particular outbreak led to hundreds of cases of illness and four deaths. Although the Department of Agriculture's review of the outbreak revealed that the incident was not caused by a failure in the current inspection system, it concluded that the system as it exists is deficient because it does not adequately address the risk of microbial contamination.

This conclusion has been supported by many external studies conducted during the past decade. The National Academy of Sciences, the General Accounting Office, the National Advisory Committee on Microbiological Criteria for Foods, industry, producers and consumer groups have called for change in the current inspection system to better address microbial pathogens and make it more prevention-oriented.

FSIS Strategy

- Stimulate improvement in food safety practices by setting public health-oriented targets, guidelines, or standards that all plants must meet.
- Clearly define the minimum requirements all plants must meet to produce safe meat and poultry and ensure that plants are accountable for meeting them.
- Make meat and poultry plants responsible for microbial testing of their products to ensure proper process control and verify achievement of microbial limits.
- Foster scientific and technological innovation within the meat and poultry industry by removing any unnecessary regulatory obstacles to innovation.
- Build the principle of prevention into the operations of meat and poultry plants.
- Focus inspection on prevention objectives.
- Approach the food safety mission broadly and consider potential hazards that arise throughout the food production and delivery system, including before animals enter FSIS-inspected plants and after meat and poultry products leave those plants.

THE PROPOSAL

Near-Term Initiatives

- **Sanitation Standard Operating Procedures (SOPs)**

Insanitary conditions during the production of meat and poultry products increase the likelihood that pathogenic bacteria will contaminate the finished product. At the same time, poor sanitation is the most frequently observed problem in meat and poultry plants.

FSIS is proposing to require all plants to establish written SOPs for sanitation and maintain a system of records to document adherence to the procedures. The proposal does not change existing basic sanitation requirements found in the regulations or guidance contained in the FSIS Sanitation Handbook. Rather, the written sanitation SOPs would describe the specific activities plant management has determined are necessary to maintain good sanitation in a specific plant. Examples of specific practices that might be included in an SOP include pre-operational microbiological testing, disinfection of equipment prior to start up, proper hand washing between each carcass during skinning and evisceration, and cleaning cattle prior to slaughter.

Sanitation SOPs are intended to clarify that sanitation is industry's responsibility. They would make it easier for FSIS inspectors to perform their proper role of verifying that plant management is carrying out its sanitation responsibilities.

- **Antimicrobial treatments**

The proposed regulation would require that slaughtering plants apply at least one antimicrobial treatment to livestock and poultry carcasses before chilling or cooling. FSIS recognizes that this is not a complete solution to the problem of pathogenic microorganisms but, rather, is one part of a strategy to reduce pathogens.

For the purposes of this regulation, FSIS would approve specific antimicrobial treatments when data are available demonstrating that they are safe and effective and do not adulterate the product. The following are available antimicrobial treatments that FSIS tentatively concludes could satisfy its proposed requirements for a mandatory antimicrobial treatment: hot water; lactic, acetic, and citric acid solution sprays; trisodium phosphate; and chlorinated water. The Agency encourages

the development of new antimicrobial procedures and will work with those who have developed and want to evaluate processing techniques designed to enhance product safety.

Antimicrobial treatments will not be allowed to substitute for careful sanitary dressing procedures. This new proposed requirement would not change the current FSIS policy regarding removal of physical contaminants from meat and poultry carcasses. The proposal clarifies that there is no tolerance for feces on poultry carcasses.

- **Time/Temperature Controls**

Rapidly cooling carcasses is one means of preventing the multiplication of pathogenic bacteria. FSIS is proposing that appropriate time/temperature controls for handling raw products, which many plants follow voluntarily based on prevailing industry standards, become mandatory.

Plants would be required to cool the surface of meat carcasses to 50° F or below within 5 hours and to 40° F or below within 24 hours from the time that carcasses exit the slaughter floor. In addition, carcasses and meat products would be required to be maintained at 40° F or below during handling, holding, and shipping.

Current poultry regulations already require that all poultry slaughtered and eviscerated be chilled immediately after processing so that the internal temperature is reduced to 40° F or below within a time period appropriate for the size of the carcass. Eviscerated poultry to be shipped must be maintained at 40° F or below, with certain exceptions. FSIS is proposing to amend the poultry regulations to include provisions for alternative time/temperature requirements, to mandate corrective actions when time/temperature controls fail, and to eliminate other provisions inconsistent with those being proposed for meat.

The proposed time/temperature cooling requirements for meat are equivalent to those in effect and being proposed for poultry in terms of their public health benefits and are readily attainable under current commercial conditions.

Plants would be required to develop, implement, and file a written plan for meeting the time and temperature requirements. Inspection personnel would verify that the written plan is being followed and would measure temperatures at various control points and compare them with those measured and recorded by the plant.

Products that are not chilled quickly enough, or that have been held at temperatures exceeding 40° F, would be required to be further processed to kill pathogens or be condemned.

Interim Targets for Pathogen Reduction and Microbial Testing

FSIS believes that the production of raw meat and poultry with an incidence of *Salmonella* below the current national incidence level is readily achievable with available technology and production methods. FSIS is proposing that all plants should be required to control their processes to achieve microbial targets below the national incidence level, and is therefore proposing interim targets for pathogen reduction in slaughter plants.

Under the proposal, plants would be required to sample and test representative products daily for the presence of *Salmonella*. FSIS would identify a national baseline incidence of *Salmonella* contamination for each major species and for ground meat and poultry. FSIS is proposing that within two years following the publication of the final rule, or within some other period specified by FSIS, all plants reduce contamination below the baseline, perhaps by some specified percentage. FSIS is interested in comments on what that percentage should be.

This is an initial step toward measurable reductions in microbial contamination and a first step toward the eventual incorporation of microbial testing as an integral part of process control and verification in plants operating under the HACCP approach. FSIS intends to work toward setting more definitive targets, guidelines, or standards, including the possible identification of levels of specific pathogens that pose a safety concern and the use of those levels for regulatory purposes. Even as the scientific basis for such standards develops, however, FSIS believes that significant reductions in the risk of foodborne illness can be achieved by requiring compliance with interim targets for pathogen reduction.

Salmonella was selected as the target pathogen because it is the leading cause of foodborne illness, it is present on virtually all raw food products, and it can easily be recovered from a variety of products. Reductions in *Salmonella* should also result in reductions of other human pathogens.

Each plant would be required to develop a written protocol, available for review by the inspector in charge, outlining specimen collection and handling.

The results would be entered into a moving sum process control table or chart, which provides immediate feedback on the effectiveness of the control system.

Plants that are not achieving the established targets for pathogen reduction within the period specified by FSIS would be required to take corrective action under FSIS supervision to improve process control to achieve the target.

Hazard Analysis and Critical Control Points (HACCP) Systems

FSIS is proposing that federally inspected meat and poultry plants adopt HACCP systems to provide documentation that their processes are in control and producing safe products. The HACCP approach is a preventive system of process control that is widely recognized by scientific authorities and international organizations and is used in the food industry to produce product in compliance with health and safety requirements.

Implementation of HACCP would clarify that the industry, not the inspection service, is responsible for producing safe meat and poultry products. With HACCP in place, FSIS would verify that the plant is controlling its processes and consistently producing products that comply with food safety requirements.

HACCP systems would cover those critical control points (CCP's) that affect product safety, as opposed to those related to economic adulteration and quality. A HACCP plan would be required for each type of processing activity carried out by the plant. FSIS would not approve HACCP plans in advance but would evaluate their effectiveness as part of the inspection process.

Plants would be required to develop HACCP plans based on the seven principles articulated by the National Advisory Committee on Microbiological Criteria for Foods:

- (1) Conduct a hazard analysis;
- (2) Identify the CCP's in the process;
- (3) Establish critical limits for preventive measures associated with each identified CCP;
- (4) Establish CCP monitoring requirements;

- (5) Establish corrective action;
- (6) Establish effective recordkeeping procedures; and
- (7) Establish procedures for verifying that the HACCP system is working correctly.

Implementation would be phased in, based on the type of production process. It is proposed that implementation for processes associated with the greatest public health risk would begin 12 months after publication of the final rule. Implementation would be complete 36 months after publication of the final rule. Small establishments, which FSIS is proposing to define as those with an annual production valued at or below \$2.5 million, would be permitted 36 months from the date of publication of the final rule to start their HACCP plans, regardless of the processes they carry out.

Food Safety from Farm to Table

The proposed regulations address product safety only within the plant environment. The Agency recognizes that ensuring food safety requires taking steps throughout the chain of production, processing, distribution, and sale to prevent hazards and reduce the risk of foodborne illness. To minimize the growth of pathogens once a product leaves the plant, FSIS is announcing its intent to initiate rulemaking with the Food and Drug Administration (FDA) to establish Federal standards for the safe transportation of foods. FSIS will also work with FDA to ensure food safety at the retail level by encouraging States to adopt and enforce consistent, science-based standards.

Although animal production food safety is not the subject of this regulatory proposal, FSIS also will work with animal producers and others to develop and implement food safety measures that can be taken on the farm and before animals enter the slaughter facility to reduce the risk of harmful contamination of meat and poultry products.

In addition, the Agency will continue its comprehensive food handler education programs to inform the public and those who prepare and serve food to the public on how to properly handle, prepare, and store meat and poultry products to minimize the growth of foodborne pathogens.

Health-Based Standards for Pathogenic Microorganisms

The proposed requirement that plants achieve a certain reduction in the incidence of *Salmonella* is an initial step toward articulating an acceptable level of food safety performance. The broader task of identifying levels of specific pathogens that pose a threat to public health is complex. FSIS intends to hold one or more public meetings to explore this and other topics with interested parties and intends to work closely with government and public health agencies, academia, industry, and consumer groups to develop the scientific basis for microbial risk assessment and health-based performance standards for pathogenic microorganisms.

Technology Development

Because the development and proper use of technology can contribute significantly to improving the safety of the food supply, FSIS is encouraging technology development in several ways. First, by setting public health standards, the Agency believes it is providing a heightened incentive to take innovative steps to improve food safety. Second, FSIS will review its policies and procedures governing the review and approval of in-plant technologies to simplify them as much as possible, while ensuring that safety and efficacy are not compromised. Third, FSIS will focus its own limited technology development resources on tools that can assist the Agency in detecting and evaluating food safety hazards and on research that requires a long-term commitment.

FSIS Inspection Roles

FSIS must consider the future roles of its inspection force. FSIS intends to work closely with the bargaining unit and employee organizations in formulating its plan for inspection under HACCP. FSIS must consider a number of issues, including

- (1) what additional tasks FSIS inspectors should be performing under HACCP,
- (2) what the role of FSIS inspectors should be in ensuring that Federal standards are met during transportation and at the retail level, and
- (3) what new inspection tools and techniques are needed in a regulatory environment where greater responsibility for safety is being placed on industry.

Administration Food Safety Initiatives

These initiatives build on a number of important steps already undertaken by the Administration to strengthen and update the Federal inspection program for meat and poultry products. They include:

- (1) the elevation of food safety to a sub-Cabinet-level responsibility within the Department of Agriculture,
- (2) development of pathogen reduction legislation to target microbial pathogens in meat and poultry products and reduce the risks of foodborne illness,
- (3) declaration of *E. coli* 0157:H7 in raw ground beef to be an illegal adulterant and initiation of a sampling program for raw ground beef,
- (4) streamlined approval of antimicrobial treatments to help the beef industry move faster to install new technologies to reduce pathogens;
- (5) initiation of unannounced reviews in 1,000 meat and poultry plants to enforce inspection requirements,
- (6) implementation of mandatory safe handling instructions on labels of meat and poultry products, and
- (7) increased funding for food safety research.

To obtain paper or diskette copies of the proposal contact:

National Technical Information Service (NTIS)
U. S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161

(Reference NTIS accession number PB95-166021 for a paper copy and PB95-502217 for the diskette version).

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Congressional Inquiries:	(202) 720-3897
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Consumer Inquiries:	
Call USDA's Meat and Poultry Hotline at:	1-800-535-4555
In the Washington, D.C. area, call:	(202) 720-3333

The Food Safety and Inspection Service (FSIS) is pursuing a broad, long term science-based strategy to address food safety from the farm to the table. The strategy expands the agency's food safety mission to consider potential hazards throughout the food production and delivery system. *The strategy is open to public comment for 120 days, and FSIS will actively seek ideas of consumers, scientists, employees and industry.*

The inspection laws FSIS administers focus on activities inside federally inspected meat and poultry plants to ensure product entering into commerce is unadulterated and properly labeled. To improve the

safety of meat and poultry products produced in these plants, FSIS is proposing pathogen reduction and Hazard Analysis and Critical Control Points (HACCP) measures to reduce the levels of pathogenic microorganisms on meat and poultry products and the incidence of foodborne illness associated with these products. As part of its food safety strategy and public health mandate, FSIS will continue to educate consumers about safe food handling practices to reduce the risk of food poisoning. FSIS is also working with the animal production, transportation, distribution and retail sectors of the food industry to ensure the whole system is working effectively to prevent food safety problems.

Proposed in-plant activities

- FSIS is proposing new near-term and long-term requirements to establish systematic, preventive measures to eliminate and reduce the presence of pathogenic microorganisms in meat and poultry products. Under the proposal, near-term requirements would be implemented within 90 days of the publication of a final regulation:

—All plants would develop and use written standard operating procedures for plant sanitation.

—Slaughter plants would use at least one antimicrobial treatment to reduce the levels of pathogenic microorganisms on carcass surfaces.

—All plants would have to follow proposed time and temperature requirements for chilling finished carcasses and parts after slaughter.

- FSIS would establish interim targets for pathogen reduction and mandate daily microbial testing in slaughter plants to ensure targets are being met. Microbiological testing would be required 90 days after a final regulation is published.
- FSIS would require all plants to develop and implement HACCP systems to identify and prevent microbial and other hazards in food production. HACCP would be implemented over a three year period.

- While FSIS new regulatory proposal focuses on in-plant activities, the agency recognizes that measures to ensure the safety of meat and poultry products must be taken at all stages of animal production, slaughter, processing, distribution, sale and preparation.

On-farm activities

- FSIS will work closely with academic researchers, other government agencies, producer groups, and consumer organizations to help shape an appropriate research agenda and devise effective on-farm food safety strategies.
- Better animal husbandry and on-farm hazard control measures such as sanitary bedding offer the potential to reduce or eliminate pathogenic bacteria on food animals.
- FSIS will work with animal producers and others to develop and put into place voluntary food safety measures, such as voluntary quality assurance systems with built in steps to prevent potential contamination of live animals.

Retail and transportation activities

- FSIS monitors food products in commerce after they leave inspected facilities to ensure compliance with laws prohibiting adulteration or misbranding of food.

However, state and local governments provide most of the resources devoted to overseeing the safety of food during transportation to and sale from retail establishments.

- FSIS will encourage States to adopt and enforce science-based standards consistent with those the agency is proposing to ensure food safety at the retail level.
- FSIS is reviewing the effectiveness of its program in the area of transportation of meat and poultry products, and handling and preparation of products by retail stores, restaurants and institutions.
- FSIS will continue to work jointly with the Food and Drug Administration (FDA) to establish federal standards for safe handling of food during transportation, distribution, and storage prior to delivery to retail stores.
- The agency is working in conjunction with FDA in the following two areas:

(1) FSIS continues to work closely with FDA in providing food safety guidance to retail stores, most recently in the publication of the updated Food Code, which FSIS and FDA will encourage the States to adopt. The Food Code is a model ordinance intended to serve as a guide for State and local authorities, who have primary jurisdiction over retail stores and restaurants.

(2) FSIS and FDA have recently agreed to work together to develop guidelines for conveyances used to transport food products and to engage in joint rulemaking on standards to ensure food safety during transport.

Food safety education

- FSIS will continue its comprehensive consumer education programs to inform the public on how to properly handle, prepare, and store meat and poultry products to minimize the growth of foodborne pathogens.

For technical information, call
Judith Segal (202) 720-7773

Key Facts

Proposed Sanitation Standard Operating Procedures

Good sanitation is a fundamental requirement of federal meat and poultry inspection laws and is necessary for safe food production. Yet, poor sanitation practices, such as improper cleaning of facilities and equipment, are the most frequent deficiencies found in some meat and poultry plants. There is a direct and substantial link between insanitary practices in meat and poultry plants and the likelihood of product contamination with pathogenic bacteria.

Sanitation Standard Operating Procedures (SOPs) are one of the near-term requirements FSIS is proposing as part of its strategy to reduce the incidence of pathogens in meat and poultry products. *FSIS will actively seek the ideas of consumers, employees, scientists and industry.* The proposed SOPs would become effective 90 days from publication of a final rule.

- USDA is proposing that federally inspected meat and poultry plants develop written sanitation SOPs to show how they meet basic sanitation requirements every day.
- Meat and poultry plants would document and maintain daily records or checklists of completed sanitation procedures, and make them available to the USDA inspector for review and verification.
- The proposal would institute a process to ensure better compliance with existing federal sanitation requirements. It would not impose new sanitation requirements.
- Recent FSIS unannounced reviews of 1,000 federally inspected meat and poultry plants found more frequent and serious deficiencies in sanitation than in other areas examined.
- Traditionally, some federally inspected meat and poultry plants have relied heavily on inspectors to identify deficiencies on a daily basis.
- Under the proposed changes, the initial responsibility for identifying and addressing sanitation deficiencies in each plant would be clearly placed on the plant.
- Inspectors would verify that plants are complying with sanitation SOPs, while continuing to directly observe conditions in the plant.
- SOPs would include, but not be limited to, procedures the plant would conduct to prevent contamination before and during operation that can result in product adulteration.
- If sanitation SOPs are not followed, USDA would take appropriate actions to ensure no product is produced under insanitary conditions.

For technical information, call
Isabel Arrington (202) 720-7905

U.S. Department of Agriculture
Food Safety & Inspection Service



Temperature is one of the primary factors affecting the increase of bacteria in raw products. Pathogenic bacteria on raw meat and poultry products multiply rapidly at warm temperatures, over time. However, virtually all pathogenic bacteria stop multiplying at 40 degrees Fahrenheit (F) or below. Therefore, the sooner raw product can be chilled to and maintained at that temperature, the less likely any pathogens present will multiply to hazardous levels in the finished product.

Time and temperature controls are one of the near-term requirements USDA is proposing to reduce the risk of hazardous levels of pathogens in raw meat and poultry products reaching consumers. This regulatory process control would become effective 90 days from publication of a final regulation. *FSIS will actively seek the ideas of consumers, employees, scientists and industry.*

- USDA would require meat and poultry plants to develop a written plan for meeting time and temperature requirements specified in the regulations.
- To minimize the growth of pathogenic microorganisms, the proposed rule would require plants to chill carcass surfaces and hot-boned meat—which is meat removed from bone before the carcass cools—to 50 F (10 degrees Celsius) within 5 hours and then to 40 F (4.4 C) within 24 hours of slaughter or meat and bone separation. Meat products such as liver and cheek meat would begin chilling within one hour of removal from the carcass. Raw meat and poultry products would be maintained at 40 F or below to prevent any pathogenic bacteria that may be present on the surface of the raw products from multiplying.
- The proposed action would make poultry cooling requirements consistent with those for meat. The cooling rates for poultry carcasses would be based on the surface temperature rather than the weight of the bird. Faster cooling rates for poultry would be based on wetness of the product since wetness facilitates rapid bacterial growth.
- Chilling is required of all raw product unless it moves directly from the slaughter line to heat processing, which destroys pathogens.
- Raw products would be shipped to other plants at 40 F or below and maintained at that temperature.
- Raw products that have not been chilled and held at specified times and temperatures would require further processing to kill pathogens or be condemned.
- The proposed time and temperature requirements would be well within the parameters of customary and usual industry chilling practices used to inhibit growth of spoilage bacteria.
- The proposed requirements would be new only for plants producing raw meat because comparable requirements already exist for poultry.

For technical information, call
Carl Custer (202) 501-7321

The first part of the report discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is crucial for ensuring the integrity of the financial data and for providing a clear audit trail. The report also highlights the need for regular reconciliation of accounts to identify any discrepancies early on.

In the second part, the focus is on the implementation of internal controls. These controls are designed to prevent errors and fraud, and to ensure that all transactions are properly authorized and recorded. The report provides a detailed overview of the various types of controls that should be in place, such as segregation of duties and the use of standardized procedures.

The third part of the report deals with the importance of transparency and communication. It stresses that all stakeholders should be kept informed of the financial performance of the organization, and that any potential issues should be addressed promptly. The report also discusses the role of the board of directors in overseeing the financial management of the company.

Finally, the report concludes with a summary of the key findings and recommendations. It reiterates the importance of maintaining accurate records, implementing strong internal controls, and ensuring transparency and communication. The report also provides a list of specific actions that should be taken to improve the financial management of the organization.

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Despite the best efforts to reduce or eliminate contamination during slaughter and processing, pathogenic bacteria still may be present on livestock and poultry carcasses.

Antimicrobial treatments are one of the near-term requirements USDA is proposing to reduce the incidence of pathogens in raw meat and poultry

products. The proposed regulatory requirement would go into effect 90 days from the publication of a final regulation. *FSIS will actively seek the ideas of consumers, employees, scientists and industry.*

- The proposal would require every federally inspected meat and poultry slaughter plant to treat fresh carcasses with a process shown to reduce pathogenic bacteria on carcass surfaces.
- To reduce spoilage and other bacteria, many meat and poultry plants have incorporated antimicrobial treatments or "interventions" into their slaughter operations that have been shown to greatly reduce the levels of any bacteria that may be present.
- Requiring all federally inspected slaughter plants to employ at least one such treatment will not, by itself, solve the problem of contamination with pathogenic bacteria, but is one step among many that can reduce the risk of raw product reaching the consumer with hazardous levels of pathogenic bacteria.
- Antimicrobial treatments will not be permitted to substitute for strict compliance with sanitary slaughter and carcass dressing procedures; e.g., no visible fecal contamination will be permitted on the carcass before the treatment is applied.
- Three kinds of antimicrobial treatments have been shown to substantially reduce bacteria levels and are being authorized for use to meet the proposed requirement:
 - (1) Hot water, applied so that the temperature of the water on the carcass surfaces is at least 165 degrees Fahrenheit (F) (74 degrees Celsius) for at least 10 seconds;
 - (2) Use of antimicrobial compounds, as approved for use in FSIS regulations or in Food and Drug Administration regulations with FSIS's approval (These compounds currently include use of lactic, acetic and citric acid sprays on meat or poultry carcasses, and trisodium phosphate sprays on poultry carcasses.); and
 - (3) Use of chlorinated water as a final carcass wash. Chlorinated water is currently the most commonly used intervention.
- FSIS is encouraging the development of other treatments that will have similar or better antimicrobial effects.

For technical information, call
Bill James (202) 720-3219

1. The first of the following is a list of the names of the persons who have been elected to the office of the President of the United States since the year 1789.

2. The second of the following is a list of the names of the persons who have been elected to the office of the Vice President of the United States since the year 1789.

3. The third of the following is a list of the names of the persons who have been elected to the office of the Speaker of the House of Representatives since the year 1789.

4. The fourth of the following is a list of the names of the persons who have been elected to the office of the Chief Justice of the United States since the year 1789.

5. The fifth of the following is a list of the names of the persons who have been elected to the office of the Secretary of State since the year 1789.

6. The sixth of the following is a list of the names of the persons who have been elected to the office of the Attorney General since the year 1789.

7. The seventh of the following is a list of the names of the persons who have been elected to the office of the Secretary of the Navy since the year 1789.

8. The eighth of the following is a list of the names of the persons who have been elected to the office of the Secretary of the War since the year 1789.

9. The ninth of the following is a list of the names of the persons who have been elected to the office of the Secretary of the Treasury since the year 1789.

10. The tenth of the following is a list of the names of the persons who have been elected to the office of the Secretary of the Interior since the year 1789.

11. The eleventh of the following is a list of the names of the persons who have been elected to the office of the Secretary of the Agriculture since the year 1789.

12. The twelfth of the following is a list of the names of the persons who have been elected to the office of the Secretary of the Education since the year 1789.

Key Facts

Proposed Microbial Testing and Interim Targets for Pathogen Reduction

FSIS is proposing to set interim targets for pathogen reduction and to require microbial testing as a means of reducing the incidence of pathogenic microorganisms on meat and poultry products.

The proposed actions are first steps toward requiring all meat and poultry plants to set up Hazard Analysis and Critical Control Points (HACCP) systems, which

include end-point microbial testing to verify the effectiveness of control systems in preventing microbial contamination.

Microbiological testing would be required 90 days after publication of the final rule. Plants would begin tracking of test results 6 months after the rule is published. *FSIS will actively seek the ideas of consumers, employees, scientists and industry on its proposal.*

- FSIS proposes to set microbiological criteria to define acceptable performance by a meat or poultry plant and to hold the plant accountable for achieving at least that level of performance.
- Under the proposal, plants would conduct microbial testing, at least once a day, for Salmonella. Test results over time could be used to verify that the plant has its production processes under control or to show whether remedial measures are needed.
- Salmonella was selected as a target organism for several reasons in addition to its being the most commonly reported cause of foodborne illness linked to meat or poultry products.
- Interventions that reduce Salmonella levels have comparable effects against most other foodborne pathogens from animals intestines; methods are available to recover the organisms from a variety of meat and poultry products; and FSIS baseline studies suggest that it colonizes in a variety of animals and birds frequently enough for detecting and monitoring changes.
- The goal is for all plants to produce meat and poultry products with Salmonella occurring no more frequently than at the national baseline average.
- Each plant would develop a written protocol for sampling, which would be available for review by the Inspector-In-Charge.
- For meat, samples would be collected before carcasses leave the cooler; for poultry, immediately after the birds leave the chiller; and for raw ground meat and poultry, specimens would be collected before the products are packaged and frozen.
- Plants could test for Salmonella in their own laboratories or in a commercial/contract laboratory with demonstrated experience in testing meat and poultry for Salmonella.
- Laboratories would be required to make their quality control records available to FSIS upon request to verify their capability, and they would have to provide daily test results to plants.
- Plants are responsible for analyzing their own data and would have to make data available to inspection personnel.
- The data would be evaluated using a "moving sum procedure" in which the number of positive samples obtained over a set time period are totaled.
- The sums could not exceed acceptable limits proposed for each species and for raw ground products. The procedure is spelled out in the proposal.
- Once a week each plant would provide data to FSIS to verify that the plant is testing as required, and to determine national trends.

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- FSIS continues to encourage meat and poultry plants to put HACCP programs in place as soon as possible.
- Under the proposal, plants that have HACCP programs and that can show their products meet or

exceed the proposed targets and have verification programs could request FSIS approval to use their procedures instead of the proposed microbial verification procedures.

For technical information, call
Richard Carnevale (202) 205-0675

HACCP is a process control system designed to identify and prevent microbial and other hazards in food production and includes systematic steps to prevent problems from occurring in the first place and correct deviations as soon as they are detected.

USDA is proposing that all meat and poultry plants implement HACCP systems. Preventive control systems with documentation and verification are widely recognized by scientific authorities and international organizations as the most effective approach available

for producing safe food. Plants would be required to develop HACCP plans to monitor and control their operations. The FSIS HACCP proposal clearly defines industry's responsibility for producing a safe, wholesome, and unadulterated product. It also emphasizes that FSIS' role is to verify that the meat and poultry industries are meeting federal requirements for food safety. *FSIS will actively seek the ideas of consumers, employees, scientists and industry.*

- HACCP is accepted by scientific and food safety authorities, such as the National Academy of Sciences and the National Advisory Committee on Microbiological Criteria for Foods, and international organizations, such as the Codex Alimentarius Commission and the International Commission on Microbiological Specifications for Foods.
- FSIS is proposing to phase in HACCP throughout the regulated industry over a 3-year period. Small establishments would be phased in during the final stage.
- The proposed regulations would also apply to foreign countries that import meat and poultry products into the United States.
- The HACCP system consists of seven principles that plants must incorporate into their operation plans. The seven principles include hazard analysis, critical control point identification, establishment of critical limits, monitoring procedures, corrective actions, recordkeeping, and verification procedures.
- Principle No. 1: Conduct a hazard analysis. Plants identify the points in their food production process where significant hazards could occur and describe preventive measures that will be taken to keep hazards from occurring. HACCP does not address quality issues.
- Principle No. 2: Identify the critical control point (CCP) in the process. A CCP is a point, step or procedure at which control can be applied, and a food safety hazard can be prevented, eliminated, or reduced to an acceptable level.
- FSIS is proposing to require that processors in their HACCP plans identify critical control points to address and control all significant food safety hazards—chemical, physical and biological, including microbiological contamination.
- Examples of CCP's may include, but are not limited to cooking, chilling, specific sanitation procedures, antimicrobial treatments, product formulation control, prevention of cross contamination, and certain aspects of employee and environmental hygiene. All CCP's must be carefully developed and documented.
- Principle No. 3: Establish critical limits for preventive measures associated with each identified CCP. A critical limit is a criterion that must be met for each preventive measure associated with a CCP.
- Critical limits must reflect relevant FSIS regulations, FDA tolerances, and action levels, where appropriate.
- Critical limits are most often based on process parameters, such as temperatures, time, physical dimensions, humidity, moisture level, water activity, Ph, acidity, salt concentration and others, as well as sensory information, such as texture, aroma, visual appearance relating to the growth or survival of target pathogens, chemical or physical hazards.

- Principle No. 4: Establish CCP monitoring requirements and establish procedures for using the results of monitoring to adjust the process and maintain control to meet a specified standard.
- Monitoring activities are necessary to ensure that the process is in fact under control at each critical control point.
- FSIS is proposing to require that procedures for monitoring each critical control point be identified in the HACCP plan, including ensuring that the monitoring systems are capable of detecting process deviations, such as product segregation and holding procedures. The monitoring procedures must also indicate the effect of deviations on product safety, indicators for modification of the HACCP plan, and the plant employee responsible for monitoring activities.
- Monitoring may require materials or devices to measure, test or otherwise evaluate the process at critical control points.
- Principle No. 5: Establish corrective actions to be taken when monitoring indicates a deviation from an established critical limit.
- Although the process of developing a HACCP plan emphasizes preventive action, there is no guarantee that problems will not arise.
- FSIS is proposing to require that meat and poultry plants describe in their HACCP plans the corrective actions that will be taken if a critical limit is not met.

Corrective actions must be specified in sufficient detail to ensure that no public health hazard exists after these actions have been taken.

- Principle No. 6: Establish effective recordkeeping procedures for the HACCP system.
- USDA is proposing to require that the HACCP plan provide a recordkeeping system that will document the processor's CCP monitoring, verification activities, and deviation records.
- Principle No. 7: Establish procedures for verifying the HACCP system is working correctly. Verification procedures may include, but are not limited to, review of HACCP plan, CCP records, critical limits and microbial sampling and analysis.
- FSIS is proposing to require that the HACCP plan include a set of verification tasks to be performed by plant personnel. Verification tasks would also be performed by FSIS inspectors.
- It is envisioned that meat and poultry plants and FSIS will undertake final product testing as one of several verification activities.
- Verification links HACCP with the key element of the FSIS regulatory strategy for pathogenic microorganisms, which is the establishment of public health-oriented targets, guidelines and standards meat and poultry plants must meet to satisfy their food safety responsibility.

For technical information, call
Dorothy Stringfellow (202) 690-2087

The Food Safety and Inspection Service (FSIS) is proposing new measures in inspection to target and reduce the presence of pathogenic microorganisms in meat and poultry products. These measures include sanitation standards operating procedures, antimicrobial treatments, time and temperature controls, microbial testing and a mandatory Hazard Analysis and Critical Control Points (HACCP) system in all meat and poultry plants.

FSIS would use existing enforcement authority, when necessary, to ensure that plants comply with new requirements. *FSIS will actively seek the ideas of consumers, employees, scientists and industry on the food safety proposal.*

Proposals to be phased-in within 90 days

- **Sanitation requirements** - Plants would be expected to have a written sanitation plan and keep daily records documenting their adherence to it.
- **Antimicrobial treatments** - Slaughter plants would have to start using a process to reduce harmful bacteria on meat surfaces.
- **Temperature controls** - Plants would have to chill raw product within specified timeframes and hold products at temperatures that slow bacterial growth.
- For failure to comply with the three requirements, plants could be subject to a range of enforcement actions including: a) Being required to document why the violation occurred and provide a plan to prevent future violations; b) Having suspect product retained until FSIS can decide whether it is safe or can be made safe through further processing or some other method; c) Having plant operation delayed or inspection temporarily withheld—which means the plant cannot operate; and d) completely withdrawing inspection—which would permanently close a plant.
- **Microbial testing** - Slaughter plants would begin microbial testing 90 days after and tracking of test results 6 months after the final rule is published. Two years after publication of the final rule, plants would have to meet USDA-set interim targets for pathogen reduction.

- Plants not meeting these targets would be subject to corrective action under FSIS supervision. This would include submitting written reports on why they are not meeting the target levels and how they plan to correct that. Increased microbial testing could be required to verify effectiveness of corrective measures.

Proposals to be phased-in within 1 to 3 years

- **Mandatory HACCP plans** - Under the proposal, all federally inspected meat and poultry slaughter and processing plants would be required to develop and implement a plant-specific HACCP plan within specified timeframes. Foreign plants exporting product to the United States and state inspected plants would also be required to implement equivalent HACCP plans.
- If a plant's HACCP plan is found invalid or unacceptable, this would be considered evidence that product produced may be unsafe and appropriate regulatory actions would be taken to protect public health.

For technical information, call
Bill Smith (202) 720-3697



To ensure meat and poultry products imported into the United States are safe, wholesome and accurately labeled, the same stringent requirements FSIS places on the U.S. domestic industry are placed on foreign countries exporting to this country.

Under the proposal, exporting countries would be required to adopt the new pathogen reduction and Hazard Analysis and Critical Control Points (HACCP)

measures in order to continue exporting their products to the United States. *FSIS will actively seek the ideas of consumers, employees, scientists and industry on its proposal.*

- Through a comprehensive import inspection system, FSIS determines the equivalence of foreign inspection systems seeking to export product to the United States.
- FSIS conducts reviews of foreign inspection systems and plants and reinspects imported product at ports of entry.
- FSIS determination of the equivalence of a foreign country's inspection system centers on scientific and risk assessment methodologies.
- The equivalence concept has been clarified by the World Trade Organization (WTO) Agreement on sanitary and phytosanitary measures.
- The Agreement emphasizes science as a determinant of equivalence. All WTO member countries have an obligation to apply the principle of equivalence to export products to other member countries.
- HACCP and other measures in the proposed rule are examples of science identified in the WTO definition of equivalence.

For technical information, call
Mark Manis (202) 720-3473



Key Facts

Economic Impact Analysis

The Food Safety and Inspection Service has determined that the implementation of Hazard Analysis and Critical Control Points (HACCP) systems in meat and poultry plants will minimize pathogen contamination of meat and poultry products and lower the risk of foodborne illness. FSIS conducted a regulatory impact assessment on implementation of the proposed pathogen reduction and HACCP systems. The regulatory impact assessment concluded that the

HACCP proposal would yield an annual cost saving for public health benefits of about \$990 million to \$3.7 billion because of reduced foodborne illness costs such as medical care and lost worktime.

FSIS is publishing the Preliminary Regulatory Impact Assessment along with the proposal and is actively seeking comment on the assessment and proposal.

- Over a three year period, the estimated cost to the meat and poultry industry for developing, implementing and operating the proposed pathogen reduction and HACCP systems is estimated at \$733.5 million, averaging about \$244.5 million per year, or slightly more than 2/10 of a cent per pound of meat and poultry.
- The estimate includes costs for near-term proposed initiatives as well as the proposed long-term HACCP intervention.
- The recurring cost after full implementation of the pathogen reduction and HACCP systems is estimated at nearly \$231 million per year.
- The proposal would have a significant impact on small plants, which are identified in the cost analysis as plants having less than \$2.5 million in annual sales.
- There are about 6,200 federal slaughter, processing, and combination slaughter and processing plants, of which more than 2,200 or 36 percent are considered small federal plants.
- State-inspected plants also would be affected by the pathogen reduction and HACCP systems. There are nearly 2,900 state-inspected plants, and they are all assumed to be small plants. Of the more than 9,000 federal and state plants, about 5,100 or 56.5 percent are considered small plants.
- The estimated costs over three years for small plants to implement the proposed HACCP system is \$157.6 million. The estimated cost to small plants for implementing near-term initiatives is about \$173 million. The near-term initiatives would be put into place 90 days after publication of the final regulation.
- Plants that now have good processing controls are expected to have relatively few implementation costs to comply with the proposal. Plants with little or no process controls would need to invest more to comply.
- FSIS would allow small plants additional time to meet proposed HACCP requirements. They would have three years from the effective date of the regulation to implement HACCP plans.

For technical information, call
Ed McEvoy (202) 205-0210

U.S. Department of Agriculture
Food Safety & Inspection Service



The Food Safety and Inspection Service has developed a multi-faceted outreach strategy to inform, educate, stimulate scientific discussion, and facilitate individual and constituent group comments about the Pathogen Reduction and Hazard Analysis and Critical Control Point proposal during the proposal's 120-day comment period. Outreach activities include various components designed to ensure that consumers, industry, constituent groups, and all other interested parties have the opportunity to learn about the specifics of the proposal and understand how it is intended to provide for a safer meat and poultry supply. Constituent groups, the public and other interested parties also will be able to discuss and comment on issues addressed in or related to the proposal.

Major components of the outreach effort include six information briefings on the proposal to be held in major cities throughout the country; three scientific and technical conferences to gain input from leading scientific experts and others on specific issues in or related to the regulatory proposal; a formal hearing to facilitate public and constituent group comments on the proposal; and employee outreach efforts.

Information Briefings

- Information briefings with questions and answers sessions will be held 30 to 60 days into the comment period in:
 - Chicago
 - Dallas
 - San Francisco
 - Atlanta
 - New York
 - Washington, D.C.

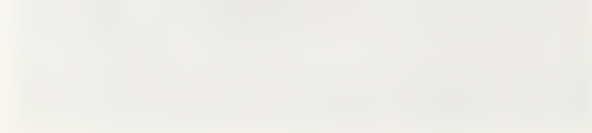
Public Hearing

- The public hearing will be held in Washington, D.C., about 90 days into the comment period.

For more information, call:
Charles Danner (202) 501-7138
Andrew Moss (202) 720-7943

Scientific and Technical Conferences

- The following scientific and technical conferences will take place 60 to 90 days into the comment period:
 - *New Technology to Improve Food Safety* — scheduled to be held in **Chicago**.
 - *The Role of Microbiological Testing in Ensuring Food Safety* — to take place in **Philadelphia**.
 - *Protecting Public Health Through Food Safety Performance Standards* — to be held in **Washington, D.C.**



1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial system and for providing a clear audit trail.

2. The second part of the document outlines the procedures for handling disputes and resolving conflicts. It emphasizes the need for open communication and fair resolution of all issues.

3. The third part of the document describes the various methods used to collect and analyze data. This includes both qualitative and quantitative approaches, as well as the use of statistical software.

4. The fourth part of the document discusses the importance of maintaining a high level of security for all data. This includes implementing strong password policies and using secure communication channels.

5. The fifth part of the document outlines the various methods used to ensure the accuracy of the data. This includes regular audits and the use of error-checking software.

6. The sixth part of the document discusses the importance of maintaining a high level of transparency in all financial transactions. This includes providing regular reports to stakeholders and ensuring that all transactions are properly documented.

7. The seventh part of the document describes the various methods used to ensure the reliability of the data. This includes using multiple sources of information and cross-checking data for consistency.

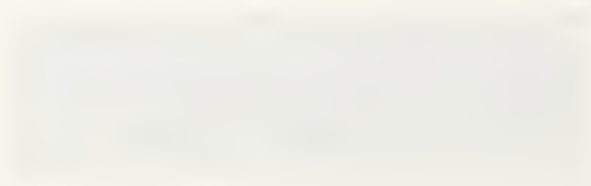
8. The eighth part of the document discusses the importance of maintaining a high level of confidentiality in all financial transactions. This includes implementing strict access controls and using secure storage methods.

9. The ninth part of the document outlines the various methods used to ensure the integrity of the data. This includes using digital signatures and other cryptographic techniques.

10. The tenth part of the document discusses the importance of maintaining a high level of accuracy in all financial transactions. This includes using precise measurement tools and double-checking calculations.

11. The eleventh part of the document describes the various methods used to ensure the reliability of the data. This includes using multiple sources of information and cross-checking data for consistency.

12. The twelfth part of the document discusses the importance of maintaining a high level of transparency in all financial transactions. This includes providing regular reports to stakeholders and ensuring that all transactions are properly documented.



QUESTIONS AND ANSWERS

Q1. Why is FSIS making this proposal?

A1. Current FSIS regulatory requirements and inspection procedures contribute to the FSIS mission of ensuring meat and poultry products are safe, wholesome and accurately labeled. However, the current program does not directly target pathogenic microorganisms, which represent the largest public health threat to consumers from meat and poultry. It also does not make meat and poultry establishments legally responsible for taking systematic, preventive measures to reduce or eliminate the presence of pathogenic microorganisms in meat and poultry products.

To protect the public health and reduce the risk of foodborne illness, FSIS is proposing to fill these gaps in its current system by requiring new measures that would target and reduce the presence of pathogenic microorganisms in meat and poultry products. FSIS is also beginning a fundamental shift in the paradigm governing its inspection program. FSIS will begin to build the principle of prevention into its inspection program by proposing that all meat and poultry establishments be required to adopt the Hazard Analysis and Critical Control Point (HACCP) approach to producing safe meat and poultry products.

Q2. What are the key elements of this proposal?

A2. Within 90 days of publication of a final rule, the proposal would require all establishments to develop and keep written records of sanitation standard operating procedures. Slaughter plants would be required to use at least one antimicrobial treatment prior to chilling or cooling. It would also require that meat and poultry products reach optimal temperatures within specified time periods to ensure maximum pathogen destruction. Within a two-year timeframe, the proposal also calls for

reducing Salmonella in all meat and poultry products by establishing interim targets and daily microbial testing to ensure those targets are being met.

FSIS is also proposing that all meat and poultry establishments develop and implement a HACCP (Hazard Analysis and Critical Control Points) system. FSIS anticipates that implementation of HACCP systems would take place over a one to three-year time period.

Q3. How will sanitation procedures change under this proposal?

A3. The sanitation SOP is a companion to the proposed HACCP requirement and part of its foundation. Like HACCP, the sanitation SOP reflects a commitment by establishments to consistently control operations in the interests of public health. The SOP demonstrates that establishment owners know their operations and how to keep them clean. Because products and processes are different for each establishment, each SOP, like each HACCP plan, may be unique.

The proposal does not affect existing basic sanitation requirements found in the meat and poultry regulations or the guidance on how to comply with these requirements provided in the Sanitation Handbook and other FSIS publications. Establishment owners would, however, be required to describe in writing how they are meeting those existing sanitation requirements in their operations.

Q4. What antimicrobial treatments would be permitted under this proposal?

A4. Antimicrobial treatments are interventions that decrease microorganisms present on the surfaces of meat and poultry carcasses. Those that have been approved by FSIS include hot water or steam; lactic,

acetic and citric acid solution sprays; trisodium phosphate (TSP); and chlorinated water. FSIS is seeking comments on each of these treatments, as well as any other antimicrobial treatment that can be proven safe and effective.

Q5. What time and temperature requirements is FSIS proposing to establish?

A5. FSIS has concluded that most raw meat and poultry products must be rapidly chilled and maintained cold at 40 degrees F or below to minimize the risk to public health from pathogens on those products. FSIS is proposing that the surface of meat carcasses be cooled to 50 degrees F or below within 5 hours and to 40 degrees F or below within 24 hours from the time that carcasses exit the slaughter floor. Poultry regulations would also be amended to be consistent. Product that is not chilled quickly enough or that has been held at temperatures exceeding 40 degrees F, would be required to receive further processing to kill pathogens or be condemned.

Q6. What interim targets are proposed for Salmonella reduction?

A6. FSIS is proposing that, within two years or some other period established by FSIS, all establishments bring their incidence of Salmonella contamination below the current national baseline incidence of Salmonella, perhaps by some specified percentage to be determined during the rulemaking process. This can be done by industry process controls and production practices that have been demonstrated in actual practice as available and effective for reducing the incidence of microbiological contamination.

Each establishment would collect a minimum of one sample for testing each day from each slaughter class and/or class of raw ground product. The establishment would record the results, which would then be used to assess the effectiveness of a system over time.

Q7. Why was Salmonella chosen as the target organism?

A7. Salmonella was selected for several reasons: 1) Salmonella is the leading cause of bacterial foodborne illness in this country, and causes the greatest economic

burden; 2) FSIS baseline data suggest that Salmonella is present in a variety of animals and birds in sufficient numbers to detect and monitor frequency changes; 3) current methodologies are available to recover Salmonella from a variety of products; and 4) intervention strategies aimed at reducing Salmonella may also have an effect against other human enteric foodborne pathogens.

Q8. When would HACCP be implemented?

Q8. FSIS envisions a phase-in of HACCP from 1 to 3 years, based on industry production process categories. Small establishments — regardless of the processes performed and products produced — would be given the full three years for implementation. The FSIS proposal identifies small plants as those plants having less than \$2.5 million in annual sales. FSIS is specifically seeking comment on how to define “small” establishments.

Q9. Does this proposal include any on-farm activities?

A9. Not at this time. FSIS does not anticipate an on-farm inspection role for Federal food safety inspectors. FSIS will work with producers and others to develop and foster implementation of food safety measures that can be taken on the farm and prior to the animals entering the slaughter facility to reduce the risk of harmful contamination of meat and poultry products. This is another specific issue area on which FSIS is seeking comment.

Q10. How will FSIS address food safety problems that occur after a meat or poultry product leaves a federally inspected establishment?

A10. FSIS and FDA share authority and responsibility for overseeing the safety of meat and poultry products after they leave FSIS-inspected facilities. FSIS and FDA will review their respective programs to determine how they can — considering all of the resources being devoted to this sector — reconfigure the program or initiate activities to increase program effectiveness. Two specific areas of review will be transportation of product in commerce and handling and preparation of food products by retail stores, restaurants, and institutions.

In the area of transportation, FSIS is currently working with FDA on the development of guidelines for conveyances used to transport food products. In the area of retail distribution, FSIS has worked closely with FDA in the recent updating of the Food Code, a set of model ordinances that serve as a guide for State and local authorities who have primary responsibility for the regulation of retail stores and restaurants. FSIS and FDA will continue to work closely together to encourage State adoption of the Food Code.

Q11. How would imported products be treated as a result of these proposed regulations?

A11. Foreign establishments exporting to the United States will be required to adopt the pathogen reduction measures and HACCP requirements FSIS imposes on domestic establishments pursuant to this rulemaking. As HACCP develops, FSIS will be considering what effect adoption of HACCP should have on the nature and frequency of import inspection.

Q12. How would the role of inspectors change as a result of this proposal?

A12. Inspection of products and practices will remain central to the FSIS inspection program. HACCP verification would necessarily expand the roles of in-plant inspectors, and HACCP would enhance the contribution they can make to ensuring the safety of food. FSIS has already begun working with its inspectors' union and other employee organizations to formulate a plan for the optimal use of inspectors for each element of this proposal.

Q13. What are the costs and benefits of this proposal?

A13. According to its Preliminary Regulatory Impact Assessment, FSIS has concluded that mandating HACCP systems would result in net benefits that far exceed industry implementation and operation costs. Mandatory HACCP implementation is projected to produce a direct reduction in foodborne illness with public health benefits estimated at \$990 million to 3.7 billion annually.

Industry costs to develop, implement, and operate HACCP processing control systems are estimated at \$733.5 million over a three year period. However, establishments that now have good processing controls would have relatively few implementation costs, while establishments that have little or no process control would need to spend more for compliance. Further, costs under the proposed regulation would manifest themselves as investments in a more viable meat and poultry industry, in contrast to the consumption expenditures such as medical care, lost worktime, and the other costs associated with foodborne illness.

Q14. Will this proposal make meat and poultry safer for consumers?

A14. This proposal would build the public health principle of prevention into the current meat and poultry inspection system and directly target and reduce contamination with dangerous bacteria. By reducing the frequency of contamination of meat and poultry with pathogenic microorganisms, these proposed requirements would in turn reduce the risk of foodborne illness from consumption of meat and poultry products.

There is no single technological or procedural solution to the problem of foodborne illness, and the Agency's food safety goal of reducing risk to the maximum extent possible will not be achieved overnight. Food safety requires continuous efforts to improve how hazards are identified and prevented. This proposal reflects the Agency's belief that steps that can be taken today to reduce the risk of foodborne illness should be taken today.

Modernizing Meat Inspection

by Mary Ann Parmley,
U.S. Department of Agriculture

Early in this century when the first meat inspection acts were passed, the science of public health was in its infancy. Accordingly, meat inspectors worked to keep diseased animal products from reaching people's tables. They accomplished that by *visually* inspecting carcasses in meat plants.

Today, at the end of the century, science has advanced miraculously, but foodborne illness still poses a risk to the American public. Statistics show that millions of Americans contract foodborne illness each year.

In far too many ways, though, USDA inspectors continue to inspect meat and poultry not much differently than their counterparts did a hundred years ago—that is, by sight, smell and touch.

But you can't "see" microscopic-sized bacteria that cause food poisoning. USDA is proposing a food safety initiative to ensure that harmful bacteria levels in products are substantially reduced as soon as possible.

What are these proposed changes all about?

While raw animal products will always contain a number of bacteria and other microbes (most harmless), this proposed inspection plan clearly states that disease-causing bacteria must be reduced to the lowest levels possible.

This cannot be accomplished all at once, but over the next 3 years, USDA believes bacterial levels in plants can be gradually reduced so as to greatly minimize the threat of foodborne illness.

The proposal holds meat and poultry producers legally responsible for making these changes.

How the Proposal will work

USDA's inspection proposal consists of three parts: 1) Immediate new in-plant safeguards; 2) Immediate daily testing to minimize bacteria in meat and poultry foods; and 3) A requirement that every plant set up a detailed HACCP plan. HACCP stands for Hazard Analysis Critical Control Point risk analysis.

1. In-plant safeguards

Soon after the new proposal becomes effective, every meat and poultry plant would operate under a sanitation plan



USDA's new proposal to protect you and your family from farm to table

specially designed to protect its products from bacteria.

Plants would also be required to use the most effective available anti-bacterial rinses to clean disease agents off raw meat surfaces. And they would be held accountable for the proper cooling of raw meat and poultry products.

2. Bacterial Testing

Let's say a hog plant produces pork chops. Once a day, under this proposal, the plant must test a hog carcass to see if any of certain harmful bacteria are present. This daily testing will establish a performance profile for each plant that shows their success at reaching national bacteria reduction targets.

Over the first 2 years, USDA will work closely with plants to refine testing, process control and reporting procedures necessary to lower bacteria levels. After that, all plants producing raw product would be required to meet USDA-set national targets for bacterial reduction.

Inspection that Protects

To move meat and poultry inspection into the 21st century, we must directly target the bacteria that make people sick and use the tools of science to systematically prevent food safety problems.

Michael R. Taylor, USDA,
Acting Under Secretary for Food Safety

3. HACCP plans

The first two parts of the proposal—new sanitary requirements and other safeguards plus bacteria testing—would go into effect right away. But they just set the stage for USDA's major shift, and that is to require that within 3 years every plant operate under a detailed, carefully researched HACCP or risk prevention plan covering every step in production.

HACCP analysis requires plant managers to identify every point in production where something could go wrong to jeopardize product safety. The HACCP plan also spells-out precise corrective actions to be taken.

Furthermore, HACCP-type safeguards would be extended beyond the meat or poultry plant back to the farm and forward through transportation and safe handling at the store or other retail outlet. In this effort, USDA will work with meat and poultry producers, transporters, retail sales people and officials with local jurisdiction.

The Consumer Role

Of course the safe handling of raw meat and poultry products cannot end at the plant or grocery store door. No matter how safe government and industry try to make meat food products, the last, best line of defense against foodborne illness is still safe handling at home.

Consumers should read and routinely follow the guidelines on the new safe handling labels on meat and poultry.

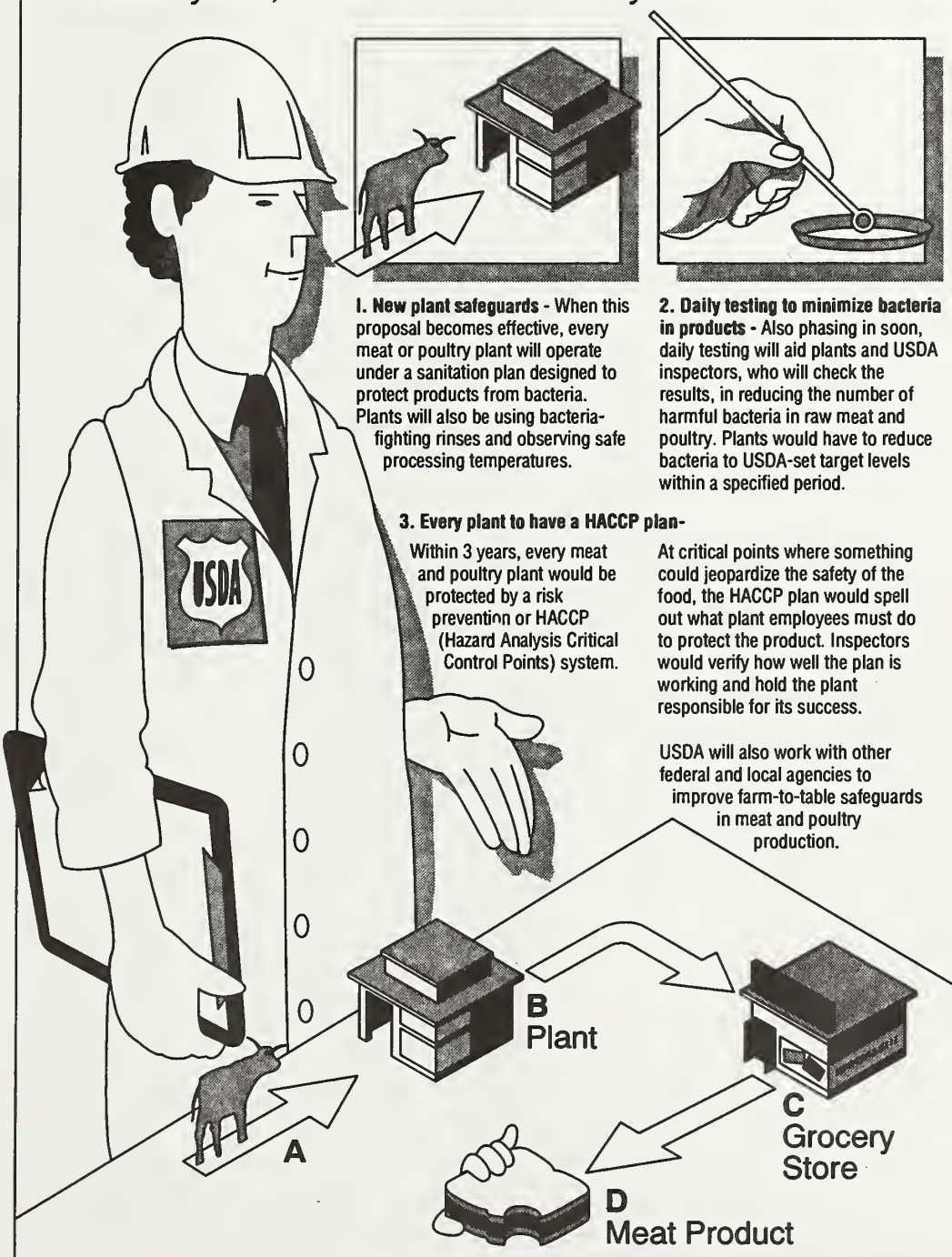
Safe Handling of Meat & Poultry means

1. Keep it refrigerated or frozen. Thaw in refrigerator or microwave.
2. Keep raw meat and poultry separate from other foods. Wash work surfaces (including cutting boards), utensils and hands after touching raw meat or poultry.
3. Cook thoroughly.
4. Keep hot foods hot. Refrigerate leftovers immediately or discard. ✚

For more information on USDA's new Proposed Regulation to Improve Meat and Poultry Inspection or the everyday safe handling of meat and poultry products, call the Meat and Poultry Hotline, 800-535-4555. Washington, D.C. residents call 202-720-4333.

USDA is strengthening inspection for safer meat & poultry products

To move ahead with the most comprehensive improvements in meat and poultry inspection in a hundred years, USDA's new food safety initiative calls for...



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